

# Immunotag™ Smad2 Polyclonal Antibody

| Antibody Specification |                                                                                                                                                                                                  |
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| Catalog No.            | ITT4330                                                                                                                                                                                          |
| Product Description    | Immunotag™ Smad2 Polyclonal Antibody                                                                                                                                                             |
| Size                   | 50 µg, 100 µg                                                                                                                                                                                    |
| Conjugation            | HRP, Biotin, FITC, Alexa Fluor® 350, Alexa Fluor® 405, Alexa Fluor® 488, Alexa Fluor® 555, Alexa Fluor® 594, Alexa Fluor® 647                                                                    |
| IMPORTANT NOTE         | This product is custom manufactured with a lead time of 3-4 weeks. Once in production, this item cannot be cancelled from an order and is not eligible for return.                               |
| Target Protein         | SMAD2                                                                                                                                                                                            |
| Clonality              | Polyclonal                                                                                                                                                                                       |
| Storage/Stability      | -20°C/1 year                                                                                                                                                                                     |
| Application            | WB,ELISA                                                                                                                                                                                         |
| Recommended Dilution   | Western Blot: 1/500 - 1/2000. ELISA: 1/10000. Not yet tested in other applications.                                                                                                              |
| Concentration          | 1 mg/ml                                                                                                                                                                                          |
| Reactive Species       | Human,Mouse,Rat                                                                                                                                                                                  |
| Host Species           | Rabbit                                                                                                                                                                                           |
| Immunogen              | Synthesized peptide derived from Smad2, at AA range: 400-480                                                                                                                                     |
| Specificity            | Smad2 Polyclonal Antibody detects endogenous levels of Smad2 protein.                                                                                                                            |
| Purification           | The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen                                                                             |
| Form                   | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.                                                                                                                          |
| Gene Name              | SMAD2                                                                                                                                                                                            |
| Accession No.          | Q15796 Q62432 O70436                                                                                                                                                                             |
| Alternate Names        | SMAD2; MADH2; MADR2; Mothers against decapentaplegic homolog 2; MAD homolog 2; Mothers against DPP homolog 2; JV18-1; Mad-related protein 2; hMAD-2; SMAD family member 2; SMAD 2; Smad2; hSMAD2 |

## Antibody Specification

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| Description                 | SMAD family member 2(SMAD2) Homo sapiens The protein encoded by this gene belongs to the SMAD, a family of proteins similar to the gene products of the Drosophila gene 'mothers against decapentaplegic' (Mad) and the C. elegans gene Sma. SMAD proteins are signal transducers and transcriptional modulators that mediate multiple signaling pathways. This protein mediates the signal of the transforming growth factor (TGF)-beta, and thus regulates multiple cellular processes, such as cell proliferation, apoptosis, and differentiation. This protein is recruited to the TGF-beta receptors through its interaction with the SMAD anchor for receptor activation (SARA) protein. In response to TGF-beta signal, this protein is phosphorylated by the TGF-beta receptors. The phosphorylation induces the dissociation of this protein with SARA and the association with the family member SMAD4. The association with SMAD4 is important for the translocation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Cell Pathway/<br>Category   | Regulates Angiogenesis, Cell_Cycle_G1S,Cell_Cycle_G2M_DNA, Protein_Acetylation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Protein<br>Expression       | Chronic myeloid leukemia cell,Colon adenocarcinoma,Epithelium,Kidney,Pancreas,Place                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Subcellular<br>Localization | nuclear chromatin,nucleus,nucleoplasm,transcription factor complex,cytoplasm,cytosol,integral component of membrane,activin responsive factor complex,SMAD protein complex,SMAD2-SMAD3 protein complex,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Protein Function            | disease:Defects in SMAD2 are found in sporadic cases of colorectal carcinoma.,function:Transcriptional modulator activated by TGF-beta and activin type 1 receptor kinase. SMAD2 is a receptor-regulated SMAD (R-SMAD). May act as a tumor suppressor in colorectal carcinoma.,PTM:Acetylated on Lys-19 by coactivators in response to TGF-beta signaling, which increases transcriptional activity. Isoform short: Acetylation increases DNA binding activity in vitro and enhances its association with target promoters in vivo.,PTM:In response to TGF-beta, ubiquitinated by NEDD4L; which promotes its degradation.,PTM:Phosphorylated on one or several of Thr-220, Ser-245, Ser-250, and Ser-255. In response to TGF-beta, phosphorylated on Ser-465/467 by TGF-beta and activin type 1 receptor kinases. Able to interact with SMURF2 when phosphorylated on Ser-465/467, recruiting other proteins, such as SNON, for degradation. In response to decorin, the naturally occurring inhibitor of TGF-beta signaling, phosphorylated on Ser-240 by CaMK2. Phosphorylated by MAPK3 upon EGF stimulation; which increases transcriptional activity and stability, and is blocked by calmodulin.,similarity:Belongs to the dwarfin/SMAD family.,similarity:Contains 1 MH1 (MAD homology 1) domain.,similarity:Contains 1 MH2 (MAD homology 2) domain.,subcellular location:Cytoplasmic in the absence of ligand. Migrates to the nucleus when complexed with SMAD4.,subunit:Found in a complex with SMAD3 and TRIM33 upon addition of TGF-beta. Interacts with SMAD3 and TRIM33. Interacts with SARA (SMAD anchor for receptor activation); may form trimers with the SMAD4 co-SMAD. Interacts with FOXH1, homeobox protein TGIF, PEBP2-alpha subunit, CREB-binding protein (CBP), EP300 and SKI. Interacts with SNON; when phosphorylated at Ser-465/467. Interacts (via PY-motif) with SMURF2. Interacts with AIP1 and HGS. Interacts with NEDD4L in response to TGF-beta (By similarity). Interacts with LBXCOR1 and CORL2.,tissue specificity:Expressed at high levels in skeletal muscle, heart and placenta., |
| Usage                       | For Research Use Only! Not for diagnostic or therapeutic procedures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |